

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YING-YUH LU, MICHAEL D. CRANDALL and ROBERT D. KOPPES

Appeal No. 96-3933
Application 07/829,899¹

HEARD: July 12, 1999

Before KIMLIN, GARRIS and WARREN, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-11. Claims 12-26, the other claims remaining in the present application, stand withdrawn from consideration. Claim 1 is illustrative:

¹ Application for patent filed February 3, 1992.

1. A latex comprising:

(a) about 40 to about 70 weight percent of a solid phase, said solid phase comprising the reaction product of:

(i) about 70 to about 98.5 percent by weight of monomer selected from the group consisting of C₄ to C₁₂ alkyl acrylate ester monomer and mixtures thereof;

(ii) about 0 to about 20 percent by weight of monomer selected from the group consisting of vinyl esters, C₁ to C₄ esters of (meth)acrylic acid, styrene, and mixtures thereof;

(iii) about 1 to about 10 percent by weight of polar monomer copolymerizable with said monomer(s) of element (a)(i) and element (a)(ii);

(iv) about 0.5 to about 20 percent by weight of a hydrophobic polymer which is incapable of reaction with said monomers of elements (a)(i), (a)(ii), and (a)(iii), wherein said hydrophobic polymer has a number average molecular weight ranging from about 400 to about 50,000, and wherein the hydrophobic polymer is selected such that it would not act as a plasticizer ;

(v) about 0.01 to about 1 percent by weight of an initiator;

(vi) about 1 to about 10 percent by weight of an ionic copolymerizable surfactant;

(vii) about 0 to 1 percent by weight of a chain transfer agent; and

(viii) about 0 to 5 percent by weight of a crosslinking agent;
wherein the percentages of (v), (vi), (vii), and (viii) are each based on the total weight of (i) plus (ii) plus (iii) plus (iv) and wherein the weight percentages of (i), (ii), (iii) and (iv) are each based on the total weight of (i) plus (ii) plus (iii) plus (iv); and

- (b) about 30 to about 60 percent by weight of an aqueous phase;
wherein said weight percentages of (a) and (b) are each
based on the total weight of said latex.

The examiner relies upon the following references as evidence of obviousness:

Frazee	4,879,333	Nov. 07, 1989
PPG Industries, Inc. (WO '618)	WO 89/12618	Dec. 28, 1989
(Published World Intel. Prop. Orig. Application)		

Appellants' claimed invention is directed to a latex that finds utility as a pressure sensitive adhesive composition. The latex comprises a solid phase and an aqueous phase, with the solid phase comprising a polyacrylate and a hydrophobic polymer that is incapable of reacting with the monomers which polymerize to the polyacrylate. According to page 8 of the present specification, "[t]he term 'hydrophobic polymer' as used herein refers to a water insoluble polymer."

Appellants submit at page 9 of the principal brief that "claims 1 through 11 shall be considered in a single group and shall stand or fall together with the patentability of claim 1."

Appealed claims 1-11 stand rejected under 35 U.S.C. § 103 as being unpatentable over Frazee in view of WO '618.

We have thoroughly reviewed each of appellants' arguments for patentability. However, we are in full agreement with the examiner that the claimed subject matter

would have been obvious to one of ordinary skill in the art within the meaning of § 103 in view of the applied prior art. Accordingly, we will sustain the examiner's rejection for essentially those reasons expressed in the answer, and we add the following primarily for emphasis.

Frazee, like appellants, discloses a latex composition that is used as a pressure sensitive adhesive. Appellants do not dispute the examiner's factual determination that the latex of Frazee comprises appellants' reaction product of claimed components (i), (ii), (iii), as well as component (v). Also, although the Frazee composition does not contain the presently claimed ionic copolymer surfactant, appellants do not take issue with the examiner's legal conclusion that "[i]t would have been obvious to the skilled artisan to have used the surfactant taught in the WO '618 reference in the latex disclosed in Frazee based on the disclosure in WO '618 that the surfactant can be used in any conventional latex product. (Page 4 of answer). Rather, it is appellants' contention that the composition of Frazee does not include the claimed hydrophobic polymer (ingredient (iv)). According to appellants, Frazee does not teach the use of a hydrophobic polymer as defined in the present specification, i.e. a water insoluble polymer. Appellants focus upon the Frazee disclosure that the corresponding resin "must be soluble or dispersible either in water or in an alkaline solution." (Col. 5, lines 26 and 27).

Based on the entirety of the Frazee disclosure and appellants' specification disclosure, it is our view that there is no meaningful distinction between appellants' hydrophobic polymer and the support resins within the scope of the Frazee disclosure. Appellants' specification, at page 8, discloses that the preferable number average molecular weight of the hydrophobic polymer is about 500 to about 20,000, and that the hydrophobic polymers include polystyrene, poly(methylmethacrylate) resin, and poly(alpha-methylstyrene). In like fashion Frazee discloses that the support resin may comprise a polymer derived from one monomer, such as methacrylic acid, styrene and alpha-methylstyrene, and the molecular weight of the support resin should be in the range of about 1,000 to about 20,000. (Col. 5, lines 21 et seq.) Hence, it can be seen that the support resin of Frazee may comprise the same polymers as appellants' hydrophobic polymer, with the molecular weight ranges of the polymers being virtually coincident. In our view, the only difference between the claimed hydrophobic polymer and the polymers within the scope of the Frazee disclosure is a mere semantical one. Also, we are convinced that Frazee's support resins which are dispersible in water properly qualify as water insoluble. The Condensed Chemical Dictionary defines a dispersion as a system of minute particles that are suspended in a liquid, gaseous or solid medium. Manifestly, a suspension of solid particles comprises insoluble, not soluble, material.

We also note that there is no meaningful distinction between appellants' preparation of the latex and the process disclosed Frazee. The present specification discloses at page 14 that "[t]he latex adhesives of the present invention are produced by emulsifying a mixture of water, acrylate and vinyl monomers, hydrophobic polymer, ionic copolymerizable surfactant, optionally chain transfer agent, and optionally crosslinker." Frazee, on the other hand, expressly teaches co-feeding a portion of the monomers along with the support resin to a composition of water and surfactant (col. 6, lines 66, et seq.)

Accordingly, based upon the sameness in the monomers used to prepare appellants' hydrophobic polymer and Frazee's support resin, as well as the sameness in molecular weight of appellants' hydrophobic polymer and Frazee's support resin, in addition to the correspondence between appellants' and Frazee's method of preparing the latex comprising the hydrophobic polymer and the support resin, we find the conclusion inescapable that Frazee teaches and, thereby, renders obvious the claimed hydrophobic polymer.

Appellants assert at page 14 of the principal brief that "Frazee is merely listing a number of monomers, both hydrophilic and hydrophobic, which can be used to prepare a hydrophilic support resin." According to appellants, if styrene is chosen as a

monomer, Frazee discloses that styrene be copolymerized with hydrophilic monomers to give an overall hydrophilic polymer. However, we are not persuaded by this argument because Frazee provides no teaching that the support resin must be a hydrophilic polymer. Rather, Frazee discloses that the support resin may be dispersible in water which, by definition requires a hydrophobic polymer. Also, as noted above, Frazee specifically discloses that the support resin may be comprised of one of the listed monomers, including three monomers disclosed in appellants' specification as suitable for polymerizing into a hydrophobic polymer, namely, methacrylic acid, styrene, and alpha-methylstyrene.

Appellants contend at page 8 of the reply brief that "Frazee requires the introduction of higher levels (from about 10 to about 40% by weight) of Frazee's water-dispersible or soluble support resin", and "[a]dditions of such high levels of water sensitive component runs contrary to this essential inventive aspect of Appellants' latex." However, whereas appellants claim "about 0.5 to about 20 percent by weight of a hydrophobic polymer", Frazee discloses that the support resin preferably comprises about 10 to about 25 percent by weight of the total solids (Col. 5, lines 32-35). Hence, Frazee expressly describes a preferable amount of hydrophobic polymer that is directly within the claimed range. Also, it is not clear from appealed claim 1 what the recited percentage of hydrophobic polymer is based upon.

As a final point, we note that appellants base no argument upon either objective evidence of nonobviousness or comparative data between latexes within the scope of the appealed claims and those fairly taught by Frazee.

In conclusion, based on the foregoing, and the reasons well-stated by the examiner, the examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

EDWARD C. KIMLIN
Administrative Patent Judge

BRADLEY R. GARRIS
Administrative Patent Judge

CHARLES F. WARREN
Administrative Patent Judge

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